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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,631	07/01/2003	Joseph T. Pesik	21220/04152 (GR201AS407A)	1413
24024	7590	11/03/2004	EXAMINER	
CALFEE HALTER & GRISWOLD, LLP 800 SUPERIOR AVENUE SUITE 1400 CLEVELAND, OH 44114			CHERRY, EUNCHA P	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/611,631

Applicant(s)

PESIK, JOSEPH T.

Examiner

EUNCHA P. CHERRY

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Claims 15-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/16/04.
2. Applicant's election without traverse of species 1 in the reply filed on 8/16/04 is acknowledged.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

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4. Claims 1-5 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Kane et al.

Kane et al discloses a rotatable mirror (Fig. 1) comprising:

a substrate (7) of at least one wafer of silicon material, the substrate including a flat surface of predetermined shape (see Fig. 2, 7), the flat surface being polished (column 10, 39-40);

a reflective medium disposed on the flat polished surface of the substrate (column 11, lines 18-19 and reference number 6), the medium being selected for an at least one wavelength of radiation to be reflected thereby (inherent and also see column 9, lines 53-55). The substrate is a single wafer of silicon material (column 10, lines 39-40, when layer 7 is considered to be the substrate) or a bonded composite of a plurality of wafers of silicon materials (column 10, lines 40-43, when layers 7 and 8 are considered to be the substrate). The substrate is disposed a backing plate (9, 10) exposing the reflective medium and the backing plate is formed of metal, plastic, ceramic or glass (see column 10, lines 45-53). The mirror has a thermal distortion coefficient in the range of 0.020 to 0.032 (inherent because the mirror of the prior art has the same structure as the present invention, it would perform the same). The mirror

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further comprises a mirror drive (actuator 1a) and comprises a resonant scanner (inherent because the mirror is a MEMS micromirror). The mirror is rotated by the drive mechanism in at least plane of the rotation or in two plane (see Fig. 1a).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane et al.

Kane et al discloses the claimed invention as set forth above except that the reflective medium is disposed on the polished surface by coating or sputtering or the medium is selected from the group comprising gold, silver and dielectric materials. It is obvious to one of ordinary skill the art to make the mirror surface to be selected from gold, silver or dielectric materials using coating or sputtering, because it is

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well known in the mirror art to such materials using coating or sputtering methods.

7. Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane et al in view of Fusegawa et al.

Kane et al discloses the claimed invention as set forth above except that the at least one wafer of the substrate being sectioned from a silicon ingot.

Fusegawa et al discloses a wafer of the substrate being sectioned from a circular silicon ingot (column 1, lines 49-54 and column 2, lines 1-36) and sliced (column 1, line 49). It would have been obvious to one of ordinary skill in the art to make the wafer of the substrate by sectioned from a silicon ingot because the wafer of the substrate has a good resistance to thermal distortion and wide operating temperature range (see column 4, line 52 through column 5, line 20).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McClelland et al and Neukermans et al both disclose MEMS having a silicon wafer substrate.

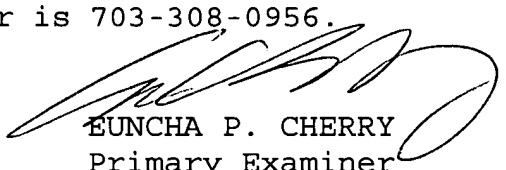
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUNCHA P.

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CHERRY whose telephone number is 571-272-2310. The examiner can normally be reached on M-F 6:30-4:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DREW DUNN can be reached on 571-272-2312. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



EUNCHA P. CHERRY
Primary Examiner
Art Unit 2872

November 1, 2004